

Missing Link in the Service Profit Chain: A Meta-Analytic Review of the Antecedents, Consequences, and Moderators of Service Climate

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Service climate captures employees' consensual perceptions of organizations' emphasis on service quality. Although many studies have examined the foundation issues and outcomes of service climate, there is a lack of a comprehensive model explicating the antecedents, outcomes, and moderators of service climate. The current study fills this void in the literature. By conducting a meta-analysis of 58 independent samples ($N = 9,363$), we found support for service climate as a critical linkage between internal and external service parameters. In addition, we found differential effects of service-oriented versus general human resource practices and leadership on service climate, as well as disparate impacts of service climate contingent on types of service, measures of service climate, and sources of rating. Research and practical implications are discussed.

Keywords: service climate, service profit chain, leadership, human resource practices, meta-analysis

The global economy has gradually shifted its focus from manufacturing to service. According to the *World Fact Book* published by the Central Intelligence Agency (2011), the service sector currently accounts for over 63% of the world gross domestic product (GDP) and over 76% of the U.S. GDP. Of the workers employed in the manufacturing sector, 65–75% are also performing service tasks (Horwitz & Neville, 1996). Service excellence has become a critical determinant of firm long-term profitability. It has been estimated that by reducing service defect by just 5%, insurance brokerage firms can earn 85% more profit and auto-service chains can make 30% more profit (Reichheld & Sasser, 1990). By increasing the performance on customer service to one standard deviation above the mean, firms earned approximately one percent higher return for their shareholders than average (Ogden & Watson, 1999). Many organizations, therefore, start to “view service quality or service excellence as a strategic imperative or, at a minimum, a strategic opportunity” (Schneider, 1990, p. 399).

Intrigued by the importance of service and its distinction from production, many management researchers have studied service management as a unique area (Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005). In particular, the concept of service climate has been considered a critical link between internal and external service parameters (Schneider, White, & Paul, 1998). Service climate refers to employees' consensual beliefs about the organization's emphasis on service quality throughout the service production, delivery, and consumption processes. Such perceptions are derived from employees' experiences of the events, practices, and procedures in the organization, as well as employees' understanding of what types of behaviors are rewarded, supported, and expected (Schneider, 1990; Schneider, Bowen, Ehrhart, & Holcombe, 2000).

The unique characteristics of service suggest that service climate will play a pivotal role in the service management process. Compared to production, service is more intangible; the production and consumption of service are often more simultaneous; moreover, customers can be involved to a greater extent to coproduce service (Bowen, Siehl, & Schneider, 1989). These attributes together suggest that, unlike for production, it is almost impossible for organizations to accurately assess, monitor, or control the service delivery process (Schneider et al., 2000). Instead, organizations need to cultivate a strong service climate to guide the attitudes and behaviors of employees in the service process. As such, service climate has been considered a critical linkage in translating internal management philosophy into organizational performance (Schneider et al., 2005; Schneider, White, & Paul, 1998).

Although research on service management has provided considerable evidence for the central role of service climate in connecting internal and external service parameters, the theoretical underpin-

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nings of these linkages have not been well synthesized (Dean, 2004). Organizational researchers recognize the importance of service climate in service management (Schneider, White, & Paul, 1998); however, two other research frameworks that have largely inspired the service climate research, the service profit chain, which describes “direct and strong relationships between profit; growth; customer loyalty; employee capability; satisfaction, loyalty, and productivity” (Heskett, Sasser, & Schlesinger, 1997, p. 11), and the customer relationship economics perspective, which commences with service quality and focuses on the subsequent implications for customer responses and financial outcomes (Storbacka, Strandvik, & Grönroos, 1994), fail to explicitly include service climate as part of their theoretical frameworks. The explanations for the relationships between internal and external service parameters from these three perspectives are not mutually exclusive; in fact, they can perhaps be best viewed as synergistic, with one perspective being built on the assumption and evidence advanced by another. There is a tremendous opportunity to theoretically integrate the service profit chain, service climate, and customer relationships research to establish a comprehensive model of service climate and to empirically validate such a model.

Toward these objectives, the current study focuses on developing a theoretically derived model of service climate that identifies its antecedents and influence processes on important organizational outcomes (Figure 1 outlines the proposed model). In addition, this study is the first to provide a quantitative review of these relationships. Meta-analysis allows estimations of the true population effect sizes (Hunter & Schmidt, 2004), synthesizing and addressing the inconsistent findings obtained in previous primary studies that were conducted in a piecemeal manner. It also allows us to test whether the relationships between variables are proximal or distal through mediation analyses and to examine whether they are contingent on certain contexts through moderation analyses. In so doing, we attempt to make several contributions to the service management literature.

First, we clearly conceptualize and empirically compare the key antecedents of service climate. Previous studies of service climate have included different forms of organizational practices (Chuang & Liao, 2010; Salanova, Agut, & Peiró, 2005) and leadership (Hui, Chiu, Yu, Cheng, & Tse, 2007; Liao & Chuang, 2007; Salvaggio et al., 2007; Schneider et al., 2005) as its potential antecedents. Theories of organizational climate suggest that service climate is distinguished from a general climate because of its strategic anchor for service quality (Schneider, 1990) and that specific types of

human resource (HR) practices and leadership, particularly those that are oriented to service quality, are more conducive to generating a favorable service climate than are general HR practices and leadership (Bowen & Ostroff, 2004; Lepak, Liao, Chung, & Harden, 2006). However, this notion has not been explicitly tested, as prior primary studies have examined either general or specific HR practices/leadership but have not compared the effects of general with specific HR practices and leadership in one study. An important contribution of the current meta-analytic review, therefore, is to compare the effects of general and service-oriented HR practices and leadership on service climate.

Second, drawing on theories of the service profit chain and customer relationship management, we establish a theoretical model that delineates the sequential influence processes of service climate on organizational outcomes. Prior primary research has examined certain outcomes of service climate, such as employee positive emotional display (Lam, Huang, & Janssen, 2010), service performance (Borucki & Burke, 1999; Liao & Chuang, 2004, 2007; Salanova et al., 2005; Schneider, White, & Paul, 1998), organizational citizenship behaviors (OCBs; Chuang & Liao, 2010; Schneider et al., 2005; Walumbwa, Hartnell, & Oke, 2010), customer perceptions of service quality (Ehrhart, Schneider, Witt, & Perry, 2011; Gracia, Cifre, & Grau, 2010), customer satisfaction (Johnson, 1996; Schneider et al., 2005), customer loyalty (Salanova et al., 2005; Schneider, Ashworth, Higgs, & Carr, 1996), and sales and financial performance (Schneider et al., 2005; Schneider, Macey, Lee, & Young, 2009). However, without a comprehensive conceptualization of the theoretical underpinnings or a meta-analysis of these cumulated findings, the intricate mediating relationships among these variables remain unclear.

The third contribution of this paper is to examine several potential moderators on the effects of service climate. Explicating the influence of potential moderators can greatly contribute to the understanding of the true relationships and explain the inconsistent findings that were obtained in previous studies that were conducted in different contexts. Several primary studies have started to examine the moderators that affect the relationships between service climate and outcomes, including different levels of service intangibility (Mayer, Ehrhart, & Schneider, 2009), service frequency (Dietz, Pugh, & Wiley, 2004), routines (de Jong, de Ruyter, & Lemmink, 2004), employee interdependence (Mayer et al., 2009), and service climate strength (Schneider, Salvaggio, & Subirats, 2002). However, certain moderators can only be examined in a meta-analysis because variations exist between studies;

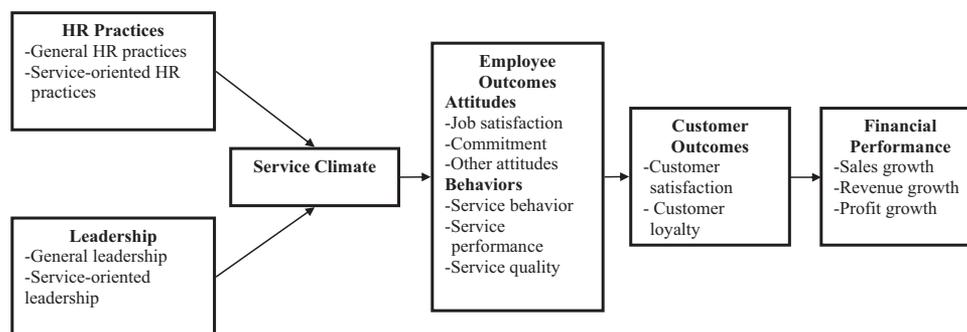


Figure 1. Theoretical model of the antecedents and consequences of service climate. HR = human resource.

the literature has suggested several such moderators, including different measures used, service contexts (Dean, 2004), levels of analysis (Dietz et al., 2004), and rating sources. On the basis of conjectures and debates in the literature, we examine the potential moderating effects of these factors. Together, these three contributions will help inform future theoretical and empirical work on service climate.

Theoretical Background and Hypotheses

Service climate originates as a special form of organizational climate, which describes “incumbents’ perceptions of the events, practices, and procedures and the kinds of behaviors that get rewarded, supported, and expected in a setting” (Schneider, 1990, p. 384). The assumption is that, when interpreting their work environment, employees synthesize various microperceptions of organizational events into macroperceptions of organizational climate (Dietz et al., 2004). Building on this notion, service climate targets a strategic reference—customer service (Schneider, 1990; Schneider, Wheeler, & Cox, 1992)—and conveys employees’ perceptions of the particular events, procedures, and practices directed to customer service, as well as employees’ expectations of the types of service behavior that will be rewarded and supported (Schneider, 1990; Schneider, White, & Paul, 1998). Given its strategic focus on service quality, service climate should have a direct influence on service outcomes (Schneider, 1990). It is a logical intermediate variable that depicts the core values and beliefs of the organization about service (Horwitz & Neville, 1996) and translates them into customer perceptions of service performance and quality (Salanova et al., 2005; Schneider, White, & Paul, 1998). In what follows, we build on and integrate the seminal works of the service profit chain, service climate, and customer relationship economics to examine service climate as a missing link in the service profit chain and to explicate its antecedents and influence processes.

Antecedents of Service Climate

Service climate is shaped by a managerial philosophy that values service and is formulated at least in part by the general support provided by the organization, which is sometimes referred to as foundation issues (Schneider, White, & Paul, 1998). One important aspect of foundation issues is the HR practices in place (Schneider & Bowen, 1993). HR practices operate to communicate the strategic focus of the organization to employees and clearly establish what is being rewarded, supported, and expected in the organization (Bowen & Ostroff, 2004). To this matter, there are two types of HR practices that contribute to the creation of service climate, one that communicates a general message of high performance of employees, and the other that conveys a distinct message of service-quality orientation.

General high-performance HR practices, practices that are intended to improve employees’ general abilities, motivation, and empowerment to perform, have been a focal construct of interest in the vast body of strategic HR research (Combs, Liu, Hall, & Ketchen, 2006; Delery & Shaw, 2001). These practices are intended to transfer the power away from top management to employees who are encouraged to enhance their overall performance, which will ultimately contribute to firm bottom-line performance,

such as the maximization of firm profit or shareholder value (Dyer & Reeves, 1995).

Although general HR practices are not oriented toward service quality in particular, they will relate to service climate through enhancing the overall expectations of employee performance. First, by integrating high-performance parameters into the HR system, organizations motivate employees to pursue high-performance goals (Huselid, 1995). Second, general HR practices provide empowerment and support for high performance. Allowing self-management and flexibility encourages employee initiative taking and problem solving (Seibert, Silver, & Randolph, 2004), thereby instilling a service climate (de Jong et al., 2004; de Jong, de Ruyter, & Lemmink, 2005). Salanova et al. (2005) found that organizational support such as training and autonomy predicted employee work engagement and service climate. Job attributes that facilitate work performance were also shown to be important for employees to create a pleasant experience for customers (Schneider & Bowen, 1993). Third, HR practices such as recruiting and selection, socialization, rewards, and punishment can establish expectations for employees to display certain desirable behaviors, such as attendance, intention to remain in the organization, and organizational citizenship behaviors (Kehoe & Wright, 2010). These HR practices together communicate an omnibus message of an expectation of high performance from employees.

Service management researchers have further examined *service-oriented HR practices*, practices that are targeted specifically for service quality (Liao, Toya, Lepak, & Hong, 2009). For example, in a service-oriented HR system, selection and training can target service-related skills, and evaluations and rewards are based on excellent service performance. These are in contrast to general high-performance HR practices (e.g., selective hiring, extensive training, performance appraisal, and pay for performance), which do not specify the types of skills and abilities being selected or trained or the types of behaviors being evaluated or rewarded. In a service-oriented HR system, as performance management and compensation reflect a particular focus on service, they have been shown to contribute to developing employees’ passion for service (Schneider et al., 1992). Susskind, Kacmar, and Borchgrevink (2003) found that in organizations where there were standards for service delivery, employees were more likely to perceive support and have higher customer orientation. Likewise, training in quality service delivery, involving employees in decision making, and rewarding and recognizing excellent service were strongly related to unit service performance and customer satisfaction with service quality (Johnson, 1996; Liao & Chuang, 2004). Chuang and Liao (2010) showed a positive effect of a comprehensive high-performance work system for service quality, including selecting and training of service competence, using performance appraisal and incentives to motivate quality service delivery, and empowering and involving employees in decision making, on units’ climate of concern for customers.

Hypothesis 1: (a) General HR practices and (b) service-oriented HR practices will be positively related to service climate at the collective level.

Although both types of HR practices will have an effect on service climate, we expect that service-oriented HR practices will

have a stronger relationship with service climate than will general high-performance HR practices. As discussed above, service climate is a special form of organizational climate oriented to service quality. Service-oriented HR practices will be more positively related to service climate than general HR practices, because unlike general high-performance HR practices, which enhance employees' abilities, motivation, and opportunities to perform (Huselid, 1995), service-oriented HR practices that improve employees' service performance convey both a concern for employees and a concern for customers, which are the gist of service climate by definition (Borucki & Burke, 1999; Chuang & Liao, 2010).

Drawing on the concept of the strength of HR systems (Bowen & Ostroff, 2004), service-oriented HR practices convey a more "adequate and unambiguous" message of organizations' expectations and rewards for high service quality than do general high-performance HR, because service-oriented HR practices are stronger in terms of distinctiveness, consistency, and consensus. First, service-oriented HR practices represent a more distinctive situation than do general HR practices. The message of service quality is more salient and understandable when it is, for example, built in as part of the explicit performance criteria or emphasized in employee training than when only a vague expectation of high performance is expressed. Providing various incentives and support for high-quality service delivery enhances employees' perception of the relevance of the organizational strategy of service differentiation to their personal goals. In addition, investing in HR as a means to improve service quality highlights the organization's value and trust for human resources to deliver high-quality service. Thus, employees' perceptions of the legitimacy of their authority in service delivery are likely to be higher than in a general high-performance HR system. Second, service-oriented HR practices deliver a more consistent message of value for service quality than do general HR practices. Selecting, developing, evaluating, and rewarding service-related skills demonstrate the consistency and validity of HR practices in supporting a common purpose of high service quality, whereas the message sent by various general HR practices can be divergent. Third, service-oriented HR practices speak for the agreement among decision makers regarding the strategy and goal of the HR system to support service excellence, thus helping foster a higher consensus among employees' perceptions of the message as well (Bowen & Ostroff, 2004). Given that service-oriented HR practices have higher distinctiveness, consistency, and consensus than do general HR practices, service-oriented HR practices should be more positively related to service climate than general HR practices (Bowen & Ostroff, 2004).

Hypothesis 2: The relationship between service-oriented HR practices and service climate will be stronger than the relationship between general HR practices and service climate at the collective level.

Service climate is also established by the managerial support for service delivery (Borucki & Burke, 1999; Salanova et al., 2005; Schneider & Bowen, 1985; Schneider, Paul, & White, 1998; Schneider, White, & Paul, 1998). One important source of support comes from the leaders/supervisors, who play a key role in communicating to employees their commitment to service and in ensuring quality in employee service delivery (Salvaggio et al.,

2007; Schneider et al., 2005). As described by Kozlowski and Doherty (1989), "An individual's immediate supervisor is the most salient, tangible representative of management actions, policies, and procedures. Thus, the nature and quality of interactions with supervisors may be a key filter in the interpretations that provide the basis for subordinates' climate perceptions" (p. 547). Two types of leadership have been highlighted in previous studies of service climate: general positive leadership and service-oriented leadership.

Several studies have examined the relationship between service climate and certain forms of general leadership, such as effective leadership (Hui et al., 2007) and transformational leadership (Liao & Chuang, 2007). Effective leaders undertake task-oriented, people-oriented, and ethical actions that set high performance goals (including those of service excellence), inspire and empower employees to achieve those goals, and provide impartial feedback to reinforce positive behaviors (e.g., excellent service performance; Hui et al., 2007). Transformational leaders engage in "behaviors such as articulating a compelling vision of customer service, inspiring enthusiasm and optimism about winning customer loyalty, serving as employees' charismatic role model in service, encouraging new ways of serving customers, and recognizing employees' individual needs and contributions" (Liao & Chuang, 2007, p. 1009), all of which contribute to high levels of service climate. Research has indeed shown that transformational leadership was positively related to service climate at the team level (Hur, van den Berg, & Wilderom, 2011).

Unlike general leadership, which can be effective across different strategic contexts, *service-oriented leadership* focuses on "recognizing and appreciating high-quality service, removing obstacles to service delivery, setting clear standards for service quality," and valuing customers' input (Schneider et al., 2005, p. 1019). Just like service-oriented HR practices, service-oriented leaders' behaviors can establish the expectations and rewards specifically for service excellence and ensure that employees have proper autonomy and support for quality service delivery. Using a qualitative approach to identify the factors that generate a passion for service, Schneider et al. (1992) found that employees perceived service-related support such as managers' concerns for service delivery and responsiveness to customer input was most closely related to a passion for service. Schneider et al. (2005) demonstrated that group leaders' service-focused behavior had a substantial impact on group service climate. Further, Salvaggio et al. (2007) showed that leaders' service-quality orientation mediated the effect of their core self-evaluation trait on service climate. Leaders can communicate a need to understand customers and obtain customer feedback, which also contributes to a value for service. Leaders' emphasis on obtaining customer input and concerns for the service delivery process were shown to be closely related to employees' perception of a passion for service (Schneider et al., 1992).

Similar to the rationales for the relative effect of service-oriented HR practices, service-oriented leadership should bear a stronger relationship than general leadership with service climate. Leaders are particularly influential in the process through which various organizational practices are implemented. It is through this process that the service-related support from leaders is more likely to be distinct, consistent, and consensual and thus to have a stronger impact on service climate than does general leadership. Without a specific objective, general leadership lacks a clear

direction for employees, whereas service-oriented leadership can direct employees' attention and efforts toward achieving this strategic objective more effectively. On the basis of the above reasons, we hypothesize that:

Hypothesis 3: (a) General positive leadership and (b) service-oriented leadership will be positively related to service climate at the collective level.

Hypothesis 4: The relationship between service-oriented leadership and service climate will be stronger than the relationship between general positive leadership and service climate at the collective level.

Influence Processes of Service Climate

As service climate signals the kinds of attitudes and behaviors that are encouraged and rewarded in the collective environment, such employee attitudes and behaviors are likely to follow in response to the shared perceptions of a service climate. We conceptualize employee attitudes and behaviors at the collective level, based on the premise that the common attitudes and behaviors exhibited by employees in the collective environment will shape the routine patterns of interactions in the unit (Schulte, Ostroff, Shmulyian, & Kinicki, 2009). In particular, previous research suggests that perceptions of service climate are related to employees' *job satisfaction*, "a pleasurable or positive emotional state resulting from one's appraisal of one's job or job experiences" (Locke, 1976, p. 1300). A high value for service encourages employees to afford meaning to their work; therefore, they enjoy their jobs to a greater extent. If employees are attracted, selected, and retained in a collective environment with a positive service climate (Schneider, Smith, & Goldstein, 2000), they are more likely to identify with the organization's value and be *committed* to the organization (Lenka, Suar, & Mohapatra, 2010). Service climate will also elicit employees' superior *service performance*, referred to as collective-role-expected service behaviors that contribute to organizational effectiveness (Kiker & Motowidlo, 1999). This is because, based on their interpretations of various situational cues in the organization, employees in a strong service climate have come to believe that such behaviors are desired and rewarded. Employees in a strong service climate will also engage in *OCB*, a "behavior that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). Positive service climate delivers the message that good customer service demands more than task behaviors, such as voluntary helping behaviors that are above and beyond those prescribed in the job description (Chuang & Liao, 2010). Previous research has shown that service climate was associated with such collective employee outcomes as unit employee job satisfaction (Ostroff et al., 2001), affect, intention to stay (Schulte et al., 2009), task performance, and OCBs (Way, Sturman, & Raab, 2010).

Hypothesis 5: Service climate will be positively related to collective-level positive employee attitudes such as (a) job satisfaction and (b) organizational commitment.

Hypothesis 6: Service climate will be positively related to collective-level positive employee service behaviors such as (a) service performance and (b) OCBs.

The service profit chain model (Heskett et al., 1997), emotional contagion framework (Pugh, 2001), and service linkage research (e.g., Schneider et al., 2005; Wiley, 1996) have traditionally suggested that that employee attitudes and service performance will translate into *customer satisfaction*, a "pleasurable level of consumption-related fulfillment" (Oliver, 1997, p. 13). As boundary spanners, employees' attitudes and performance during service reveal information concerning the internal functions of the organization to the customers (Schneider & Bowen, 1985; Schneider, Parkington, & Buxton, 1980). Through a contagion process, employees' attitudes directly influence customers' attitudes, such as perceived friendliness, positive moods, time spent in the store, and positive affect after the transaction (Pugh, 2001). Employee behaviors, including appropriate service behaviors and customer-oriented OCBs, directly create a pleasant experience for customers and lead to higher perceived service quality, more in-store positive moods, more time spent in store, and higher purchase intent (Bell & Menguc, 2002; Gracia et al., 2010; Morrison, 1996; Tsai & Huang, 2002). Research has found that the effect of service climate on customer satisfaction was mediated by employees' customer-focused OCBs (Schneider et al., 2005).

The service profit chain further suggests that customer satisfaction will bring in higher *financial performance* for the organization (Heskett et al., 1997). Research on customer relationship economics focuses specifically on the translation process of customer perceptions (e.g., service quality, satisfaction) into customer actions (e.g., retention, volume of purchase), which will then directly generate profit for service organizations (Storbacka et al., 1994). The basic premise is that customer satisfaction is a precursor of customer relationship strength and longevity; everything else being equal, the cost/benefit of retaining an existing customer is much more favorable than that of obtaining a new customer (Storbacka et al., 1994). Satisfied customers were indeed shown to purchase more (Gelade & Young, 2005) and to have a higher retention rate (Towler, Lezotte, & Burke, 2011). Tsai and Huang (2002) showed that customers' in-store positive moods and perceived friendliness determined their time spent in store as well as their willingness to come back and refer the store to others. Customers' favorable service experiences and satisfaction can result in higher sales volume (Ahearne, Mathieu, & Rapp, 2005; Schneider et al., 2005). Analyzing the American Customer Satisfaction Index (ACSI) of Fortune 200 service companies, Schneider et al. (2009) found that ACSI was a significant correlate of firms' subsequent Tobin's *Q*. As Liao and Subramony (2008) noted, a 1% increase in the ACSI score amounts to an 11.4% increase (or \$94 million) of return-on-investment (ROI), a \$654 million increase in market value of equity, and a \$55 million increase in net operating cash flow for a medium-sized firm (Anderson & Fornell, 2000; Gruca & Rego, 2005).

Given the HR practices/leadership → service climate link and the service climate → employee attitudes/performance → customer satisfaction → financial performance links, we further propose that service climate serves as a critical intermediate function between HR practices/leadership and service outcomes. Although the service profit chain model has assumed a direct relationship between internal service quality and employee attitudes and performance without service climate and customer relationship research has focused on customer outcomes and their subsequent impact on financial performance, service climate research has

theorized and examined service climate as a mediator between HR practices/leadership and outcomes. According to the theorizing of service climate, it reflects employees' interpretations of the message given by the HR practices/leaders with regard to what types of behaviors are expected and rewarded, which are then put into action by employees. Along this line, it has been shown that organizational resources on training, autonomy, and technology impacted employee performance through the mediation of service climate (Salanova et al., 2005). Service-oriented leadership was also found to stimulate employees' customer-focused OCBs through the mediation of service climate (Schneider et al., 2005). Through employee attitudes and performance, internal service parameters were then translated into customer and financial outcomes (Salanova et al., 2005; Schneider & Bowen, 1985). Drawing from and filling the gaps in the theories of the service profit chain and customer relationship economics, we hypothesize:

Hypothesis 7: Employee attitudes and service performance will be positively related to customer satisfaction and subsequently financial outcomes at the collective level.

Hypothesis 8: Service climate will mediate the influence of HR practices and leadership on employee attitudes and service performance at the collective level.

Moderators of the Effects of Service Climate on Outcomes

Exploring the influence of potential moderators in a meta-analysis can help explain the inconsistent findings obtained from previous studies that were conducted in different contexts and thus contribute to the understanding of the true relationships between service climate and its outcomes. The literature has suggested several potential moderators such as different industrial contexts (Dean, 2004), levels of analysis (Dietz et al., 2004), measures used, and rating sources. On the basis of conjectures and debates in the literature, we examine the potential moderating effects of the following theoretical and methodological factors.

Service types. Researchers traditionally have classified service into personal and nonpersonal service (Lovell, 1983). The distinction is that personal service is directed on a person (e.g., haircut), and nonpersonal service is performed on a person's possession (e.g., auto repair). In a recent meta-analysis, Brown and Lam (2008) found that employee satisfaction had a stronger relationship with service quality and customer satisfaction when the service was personal than nonpersonal. They argued that this is because in personal service, the providers (i.e., employees) and the customers engage in more "up close" interactions, during which more opportunities exist for employees to reveal their true attitudes; likewise, customers are in a better position to accurately assess the service delivery process when service is personal. Service has been classified in other relevant ways. For example, de Jong et al. (2004) differentiated between routine and nonroutine service and found that the effect of service climate in self-management teams on customer perceived service quality was stronger for nonroutine services. Similar to personal service, nonroutine service requires more extended interaction between employees and customers to solve idiosyncratic problems, which provides more opportunities for customers to perceive the message

conveyed by the service climate. Dietz et al. (2004) and Mayer et al. (2009) found that the frequency of customer contact moderated the relationship between service climate and customer satisfaction in that the relationship was stronger for more frequent contacts; because when customers are more regularly exposed to the service interactions, they are more likely to be influenced by the positive behavioral outcomes brought by a service climate. A common pattern among these relevant findings is that when service is personal, nonroutine, or frequent, the interactions between the provider and the customers are more extensive, which may intensify the relationship between service climate and customer outcomes. Therefore, we adopt the classification of personal versus nonpersonal service and expect that in the context of personal service, the effects of service climate on outcomes will be stronger than those in nonpersonal service settings.

Levels of study. The levels of service climate may moderate its effect for both conceptual and statistical reasons. Service climate has been conceptualized and operationalized at two levels of collective units: team/workgroup level and branch/store level that consists of multiple teams/workgroups/departments. As far as aggregated perceptions of service climate are concerned, two composition models are particularly relevant (Chan, 1998). The first model is a referent shift model, in which the construct is conceptually distinct at different levels. Dietz et al. (2004) suggest that service climate conceptualized at the higher level (e.g., branch level) may differ from service climate conceptualized at the lower level (e.g., workgroup level), because employees' perceptions of what types of service behaviors are desired by the units at different levels may be distinct. For example, given that the branch/store establishes the policies and practices regarding the types of service behaviors that are expected and rewarded, studying service climate at the branch/store level may accurately capture such shared perceptions of overall policies and practices in the entire branch/store. In contrast, service climate at the team/workgroup level may relate to the perceptions of the execution of service policies by supervisors and the actual service delivery by employees of that specific team/workgroup; thus, service climate studied at the team/workgroup level may reflect these shared perceptions of the work unit more proximal to the employees than the branch/store (Zohar, 2000). This suggests that there may be meaningful variations in employees' perceptions of service climate at different levels of work units.

The other model is a direct consensus composition model, in which service climate is considered the consensus among employees' perceptions (Chan, 1998). Based on this assumption, there have been both sides of arguments supporting the relatively stronger effect of service climate at the lower level or the higher level. Service climate studied at the lower, as opposed to the higher, level could have a stronger relationship with outcomes because from a situational strength standpoint, service climate at the lower level presents less "psychological distance" from the frontline employees who directly influence customer attitudes. As lower level service climate more closely influences these employees, it presents higher "potency" for them (Dietz et al., 2004). However, from a measurement error standpoint, as lower levels of service climate are aggregated to a higher level and correlated with higher level outcomes, lower level random errors (e.g., individual deviations from the mean of the organization) are averaged out, thereby reducing the error variance at the higher level (Ostroff, Kinicki, &

Clark, 2002). In this vein, we may expect to see a stronger relationship between higher level service climate and organizational outcomes than between lower level service climate and subunit outcomes.

Taking these considerations together, we expect that the levels of analysis (i.e., branch/store vs. team/department) for the service climate construct may moderate the relationships between service climate and its outcome variables.

Methodological moderators. Study methods such as measures of service climate and rating sources of service outcomes may be potential factors that can explain the inconsistent findings obtained across different primary studies. Service climate is most amenable to be reported by the employees, because, by definition, it reflects the perceptions of employees about what is expected in the organization (Schneider, White, & Paul, 1998). Service outcomes such as service performance and customer satisfaction, however, have been reported by employees, supervisors, or customers in prior studies. Previous analysis of the influence of common method bias on focal relationships has suggested that relationships between constructs are likely to be stronger when they are reported by the same party (Doty & Glick, 1998). Prior studies on service climate have also diverged in the measures that were adopted; the measures being used may influence the strength of the relationships being studied, because different item characteristics may lead different measures to diverge in construct validity (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Given that prior research has suggested different possibilities of the above theoretical and methodological moderators, we do not make directional predictions of these moderators but position them as research questions.

Research questions: Will the relationships between service climate and outcomes be moderated by (a) service types, (b) levels of study, (c) measures of service climate, and (d) rating sources?

Method

Literature Search

We used several search techniques to collect prior empirical studies that examined the antecedents and outcomes of service climate. First, we searched for published articles in the databases PsycINFO, Business Source Premier, ISI Web of Science, and Social Science Citation Index with keywords such as *service climate*, *climate for service*, *service culture*, and *service orientation*. Second, we conducted a manual search of 19 major journals in management, including *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Personnel Psychology*, *Organization Science*, *Journal of Management*, *Journal of Management Studies*, *Organizational Behavior and Human Decision Processes*, *Journal of Organizational Behavior*, *Strategic Management Journal*, *Journal of Vocational Behavior*, *Human Resource Management*, *Management Science*, *Journal of Marketing*, *Journal of Marketing Research*, *Marketing Science*, *Journal of the Academy of Marketing Science*, *Journal of Service Research*, *Journal of Services Marketing*, to locate articles that were not included in the database searches. Third, we checked the references of previous reviews on service climate and organi-

zational climate (e.g., Dean, 2004; Kuenzi & Schminke, 2009; Schneider, Macey, & Young, 2006). Fourth, in order to generate an accurate estimate of effect size, we searched for unpublished research. In particular, we searched ProQuest Digital Dissertations, as well as conference proceedings for the annual meetings of the Academy of Management, the Society of Industrial and Organizational Psychology, and Service Frontiers from 2006 to 2011. In addition, we requested current and unpublished studies related to service climate through two major electronic mailing lists for management scholars in the areas of HR (i.e., HRDivNet) and organizational behavior (i.e., OBListserv).

Inclusion Criteria

We adopted three criteria to include studies in our meta-analysis. First, on the basis of the definition of service climate as the shared perception among employees of the service behaviors that are expected and rewarded in the work environment (Schneider, White, & Paul, 1998), we included only studies that examined service climate at the collective levels of analysis, which is distinct from individuals' psychological climate (Schneider et al., 2000). Those studies that reported the correlations of individual perceptions of service climate (i.e., psychological service climate) with other individual-level variables were not included in the meta-analysis (e.g., Liao & Chuang, 2007; Liao & Subramony, 2008). Second, a study had to report at least one correlation coefficient between service climate and its antecedents and/or outcomes. Third, an investigation should provide sample size for us to calculate the sample-size-weighted effect size. Finally, when a study used two or more independent samples, we coded these independent samples separately (e.g., Borucki & Burke, 1999; Scotti, Harmon, & Behson, 2009). These inclusion criteria resulted in 58 independent studies ($N = 9,363$). A complete list of the studies considered but excluded is presented in Appendix B.

Coding Procedures and Coded Variables

We created an initial coding scheme including sample information (e.g., sample size), key variables, reliabilities of variables, and correlations among variables. Using this scheme, all authors coded a random sample of five studies and discussed and resolved the disagreements. Two authors coded the rest of the articles independently based on the agreed decision rules. The two coders reached an agreement of 100% on coding of the sample size, 95% on coding of the reliabilities, and 97% on coding of the correlations. All disagreements resulted from data entry errors were resolved by checking the original primary studies. After checking the coding reliability and solving disagreements, we developed the rules for grouping the variables (e.g., employee job satisfaction and commitment) into several broader categories (e.g., employee attitudes). The two coders discussed the decision rules with other authors to achieve a consensus, based on which they recoded service climate and its antecedents and outcomes into these broader categories.

Service climate. Consistent with previous meta-analyses on climate (e.g., Christian, Bradley, Wallace, & Burke, 2009), to be defined as service climate, a study must measure either of two variables: (a) individual employees' perceptions of service climate, which were aggregated to a higher level of analysis (e.g., team/group level, branch level) to capture the shared service climate, or

(b) individual ratings of service climate at the collective level (e.g., supervisor ratings or representatives' ratings of service climate). Fifty-eight percent of the identified studies (34 studies) used Schneider, White, and Paul's (1998) scale to measure service climate. For those studies that used similar measures of service climate (e.g., concern for customers, Burke, Borucki, & Hurley, 1992; service orientation, Lytle, Hom, & Mokwa, 1998; Peccei & Rosenthal, 1997), we checked the definition and items of the measures and retained the studies when they captured the same concept as Schneider, White, and Paul's (1998) scale.

Antecedents. We grouped the antecedents of service climate into two categories: HR practices and leadership. We further divided HR practices into general high-performance HR and service-oriented HR practices. General HR practices included general work facilitation (e.g., Gracia et al., 2010; Schneider, White, & Paul, 1998) as well as HR practices such as selective hiring, training, performance appraisal, compensation and reward, employee involvement, job design, information sharing, and work teams. Service-oriented HR practices contained HR practices with a specific service-quality focus, such as service training, service-based performance appraisal, and compensation contingent on service quality (e.g., Chuang & Liao, 2010; Liao et al., 2009). Similarly, we categorized leadership into general leadership and service-oriented leadership. General leadership included any forms of positive leadership, such as transformational leadership (Hur et al., 2011; Lenka et al., 2010) and effective leadership behavior (Hui et al., 2007). Service-oriented leadership included variables that reflected leaders' concern for service, such as service leadership (Schneider et al., 2005), visionary leadership of service (Antiocho, Moenaert, Lindgreen, & Wetzels, 2008), importance of service to leaders (Borucki & Burke, 1999), and leaders' service-quality orientation (Salvaggio et al., 2007).

Outcomes. We categorized the outcomes of service climate into four groups: employee attitudes, service performance, customer satisfaction, and financial outcomes. Employee attitudes included job satisfaction, organizational commitment, intention to stay, overall job attitudes, and engagement at the collective level; service performance included employee service behavior, service quality, and service performance, which were rated by employees, supervisors, or customers. Combining employee attitudes or behaviors with similar meanings into broader categories has been supported and adopted by previous meta-analysis at both the individual and higher levels of analysis (e.g., Beus, Payne, Bergman, & Arthur, 2010; Newman, Joseph, & Hulin, 2010; Seibert, Wang, & Courtright, 2011; Whitman, Caleo, Carpenter, Horner, & Bernerth, 2012). Customer satisfaction involves both employee ratings and customer ratings of customer satisfaction. Moreover, measures of financial outcomes involved both informant-reported measures of financial outcomes (e.g., Antiocho et al., 2008; Chuang & Liao, 2010) and archival measures such as sales growth, Tobin's Q , and return on asset.

Moderators. To test the moderation of service types on the relationships between service climate and outcomes, we followed Lovelock's (1983) classification of service into two groups based on its direct recipient: personal and nonpersonal service. Services directed at people, such as salons, restaurants, haircuts, and health care, were considered as personal service type; services related to things such as banking, insurance, and equipment repair and maintenance were treated as nonpersonal service type. This categori-

zation approach was adopted by a previous meta-analysis (Brown & Lam, 2008). In terms of levels of study, the studies were divided into team/workgroup level and branch level. Teams, workgroups, or departments were considered as subunits embedded in a higher level of the organization, such as branches. Branches, then, are made of teams/workgroups and exist at a higher echelon than teams/workgroups (Miller, 1982; Whitman et al., 2012). Examples of teams/workgroups are work units from hotel and restaurants (e.g., Salanova et al., 2005) and departments nested in grocery stores (e.g., Salvaggio et al., 2007), and examples of branches are bank branches (Dietz et al., 2004), hotels (Raub & Liao, 2012), and department stores (McKay, Avery, Liao, & Morris, 2011). In addition, as mentioned above, we separated studies measuring service climate by using Schneider, White, and Paul's (1998) scale and those using other measures (e.g., concern for customers, Burke et al., 1992; service orientation, Lytle et al., 1998; Peccei & Rosenthal, 1997). We also compared the relationships of service climate with service performance and customer satisfaction rated by different informant sources (i.e., employee-rated, supervisor-rated, and customer-rated). A summary of the studies included in the meta-analysis and the coding of variables can be found in Appendix A.

Meta-Analytic Calculation

Following the statistical procedure outlined by Hunter and Schmidt (2004), we corrected observed correlations from individual samples for sampling error and unreliability. For those studies that adopted a direct-consensus composition model (Chan, 1998) to measure higher level variables (e.g., service climate, collective attitudes), we used ICC (2), an index of the reliability of group means, as the reliability estimate (e.g., Seibert et al., 2011; Whitman et al., 2012). When the variables were measured at the higher level (e.g., manager-reported HR practices), we used Cronbach's alpha coefficients to correct observed correlations for measurement error. For studies that failed to report reliabilities, we followed Hunter and Schmidt and used the average weighted value from other studies included in our meta-analysis. The average weighted reliabilities obtained for service climate, HR practices, leadership, employee attitudes, service behavior, customer satisfaction, and financial outcomes were .67, .83, .86, .81, .85, .88, and .87, respectively. In order to avoid overcorrection and hence inflate the estimated relationships, we chose not to correct for unreliability for variables using objective archival measures (e.g., sales growth, Tobin's Q , and return on asset).

Because we grouped the various antecedents and consequences of service climate into broad categories in the mediation analyses, there were possibly two or more correlations indicating the same relationship between the two categories of variables. For example, if a study reported correlations of service climate with both job satisfaction and commitment (e.g., Lenka et al., 2010), we would need to combine the two correlations in order to compute the relationship between service climate and employee attitudes. In such cases, we used Hunter and Schmidt's (2004, pp. 435–439) formula to create a single effect size for each pair of relationships within each study. In addition, we corrected for the sampling error by weighting each study's effect size by its sample size to calculate average weighted correlations (r) and average weighted reliability-corrected correlations (r_c) (Hunter & Schmidt, 2004). We also

computed the standard deviation for the corrected correlation (*SD r_c*), 95% confidence interval (CI) around the corrected correlation, and *Q* homogeneity statistic, the latter of which is significant when potential moderating effects are present.

In testing moderating effects, if the *Q* statistic of a relationship was significant, we divided the studies into subsets based on the moderators described above and calculated the average weighted corrected correlation for each subset. Next, we examined the *z* statistic to determine whether the difference in correlations between the moderator subsets was significant (Quiñones, Ford, & Teachout, 1995). To test the mediating hypotheses, we used meta-analytic structural equation modeling (SEM; Viswesvaran & Ones, 1995) with the LISREL 8.7 software (Jöreskog & Sörbom, 2005). These analyses were conducted by creating correlation matrices among relevant variables and calculating the harmonic means of the cell sample sizes. We created a meta-analysis correlation matrix as the input for SEM in Table 3. All of the correlations were generated from the current study, except for the correlation between HR practices and financial performance, which was adopted from Combs et al. (2006). We interpreted the goodness of fit of the structural model using four established model fit statistics: chi-square (χ^2), comparative fit index (CFI), normed fit index (NFI), and standardized root-mean-square residual (SRMR). Commonly recommended cutoff values were used as indicators of good fit (CFI > .90, NFI > .90, and SRMR < .06; Kline, 2005).

Results

Antecedents of Service Climate

Table 1 presents the meta-analytic correlations of service climate with its antecedents. Hypothesis 1 proposes that both (a) general HR practices and (b) service-oriented HR practices are positively related to service climate at the collective level. Results in Table 1 provided support for the positive associations between general HR and service climate (*r_c* = .48, *N* = 1,437) and between service-oriented HR and service climate (*r_c* = .67, *N* = 843). The 95% CIs of these meta-analytic correlations excluded zero (95% CI = [.33, .62] for general HR; 95% CI = [.49, .84] for service-oriented HR), indicating that these relationships were significant at the .05 level (Whitener, 1990). Hypotheses 1a and 1b were both supported. Hypothesis 2 further posits that the relationship between service-oriented HR and service climate is stronger than the relationship between general HR and service climate. The *z* test

result showed that service-oriented HR practices had a significantly stronger relationship with service climate than general HR practices (*z* = 3.80, *p* < .01), fully supporting Hypothesis 2.

Hypothesis 3 argues that (a) general positive leadership and (b) service-oriented leadership are positively related to service climate at the collective level, and Hypothesis 4 further states that the relationship between service-oriented leadership and service climate is stronger than the relationship between general positive leadership and service climate. As shown in Table 1, both general leadership (*r_c* = .41, *N* = 496; 95% CI = [.30, .53]) and service-oriented leadership (*r_c* = .59, *N* = 1,472; 95% CI = [.46, .72]) were positively related to service climate; service-oriented leadership was more positively related to service climate than was general leadership (*z* = 5.82, *p* < .01). Therefore, both Hypothesis 3 (a, b) and Hypothesis 4 received full support.

Outcomes of Service Climate

Table 2 describes the meta-analytic estimates for the relationships between service climate and outcomes. We proposed that service climate is positively related to positive employee attitudes, such as job satisfaction (Hypothesis 5a) and organizational commitment (Hypothesis 5b), and to employee service performance, such as service task performance (Hypothesis 6a) and OCBs (Hypothesis 6b). As shown by the results in Table 2, service climate was significantly and positively related to employee job satisfaction (*r_c* = .68, *N* = 196; 95% CI = [.31, 1.04]), organizational commitment (*r_c* = .79, *N* = 725; 95% CI = [.59, .99]), service task performance (*r_c* = .51, *N* = 4,114; 95% CI = [.42, .60]), and OCBs (*r_c* = .43, *N* = 273; 95% CI = [.26, .60]). Thus, Hypotheses 5a, 5b, 6a, and 6b were verified.

Hypotheses 7 and 8 suggest that service climate mediates the influence of HR practices and leadership on employee attitudes and service performance, which are further positively related to customer satisfaction and financial outcomes in sequence. To test our hypotheses, we conducted a path analysis using SEM and input a meta-analysis correlation matrix for SEM in Table 3. Although all of the proposed paths were significant and consistent with our expectation, the overall proposed mediating model (Model 1 in Table 4) did not provide a satisfactory fit to the data, $\chi^2(12)$ = 653.91, CFI = .84, NFI = .84, SRMR = .10. We then compared the hypothesized full mediation model with five alternative models. We first added a direct path from service climate to customer satisfaction (i.e., Model 2 in Table 4) and did not find a significant

Table 1
Meta-Analytic Estimates for the Relationships Between Antecedents and Service Climate

Antecedent	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	<i>SD r_c</i>	95% CI	<i>Q</i>	<i>z</i>
HR practices	19	2,280	.52	.56	.23	[.45, .68]	129.60**	
General	10	1,437	.43	.48	.20	[.33, .62]	59.94**	3.80**
Service-oriented	9	843	.61	.67	.23	[.49, .84]	48.00**	
Leadership	12	1,968	.40	.54	.16	[.44, .65]	26.16**	
General	4	496	.32	.41	.07	[.30, .53]	2.47	5.82**
Service-oriented	8	1,472	.43	.59	.16	[.46, .72]	17.77**	

Note. *k* = number of studies; *N* = combined sample size (i.e., total number of units); *r* = mean sample-size-weighted observed correlations; *r_c* = mean sample-size-weighted corrected correlation; *SD r_c* = standard deviation of *r_c*; CI = confidence interval of *r_c*; *Q* = homogeneity statistic of *r_c*; HR = human resource.

** *p* < .01.

Table 2
Meta-Analytic Estimates for the Relationships Between Service Climate and Consequences

Consequences	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	<i>SD r_c</i>	95% CI	<i>Q</i>	<i>z</i>
Employee attitudes	13	1,615	.49	.65	.22	[0.47, 0.83]	78.24**	
Job satisfaction	3	196	.51	.68	.26	[0.31, 1.04]	7.11*	
Organizational commitment	3	725	.57	.79	.09	[0.59, 0.99]	6.06*	
Others	7	694	.44	.63	.28	[0.33, 0.93]	42.39**	
OCBs	3	273	.34	.43	.08	[0.26, 0.60]	2.38	
Service performance	34	4,114	.38	.51	.26	[0.42, 0.60]	142.33**	
Employee-rated	15	2,048	.49	.67	.25	[0.52, 0.82]	75.85**	
Supervisor-rated	9	1,263	.36	.47	.19	[0.33, 0.62]	27.70**	10.21*** ^a
Customer-rated	17	2,327	.27	.37	.15	[0.28, 0.47]	36.82**	2.06 ^{ab}
Customer satisfaction	27	5,729	.23	.29	.16	[0.22, 0.37]	87.29**	
Employee-rated	3	561	.43	.57	.28	[0.17, 0.96]	27.00**	
Supervisor-rated	1	351	.30	.39		[0.25, 0.52]		0.95 ^a
Customer-rated	23	4,817	.18	.23	.08	[0.18, 0.28]	27.11	2.50 ^{ab}
Financial performance	15	3,891	.25	.32	.18	[0.21, 0.44]	8.36**	

Note. *k* = number of studies; *N* = combined sample size (i.e., total number of units); *r* = mean sample-size-weighted observed correlations; *r_c* = mean sample-size-weighted corrected correlation; *SD r_c* = standard deviation of *r_c*; CI = confidence interval of *r_c*; *Q* = homogeneity statistic of *r_c*; OCBs = organizational citizenship behaviors.

^a *z* values indicate the significance of effect differences between employee-rated and supervisor-rated outcomes. ^b *z* values indicate the significance of effect differences between supervisor-rated and customer-rated outcomes.

* *p* < .05. ** *p* < .01.

relationship ($\beta = -.05, ns$). Also, an inclusion of this direct path did not dramatically improve model fit, $\Delta\chi^2(1) = 4.61, p < .05$, CFI = .84, NFI = .84, SRMR = .11. Thus, we did not include the direct link between service climate and customer satisfaction in the following analyses. Next, we added a direct path from service climate to financial outcomes (i.e., Model 3 in Table 4). Results showed that service climate was significantly related to financial outcomes ($\beta = .26, p < .01$). An inclusion of this path significantly improved the model fit, $\Delta\chi^2(1) = 90.35, p < .01$; however, this alternative model still fit the model poorly (CFI = .86, NFI = .86, SRMR = .09). We further included the paths from HR practices to employee attitudes and service performance (Model 4 in Table 4), due to the existing evidence on these relationships (e.g., Jiang, Lepak, Hu, & Baer, 2012; Liao et al., 2009). We found that HR practices were significantly and positively related to employee attitudes ($\beta = .41, p < .01$) and service performance

($\beta = .09, p < .01$), and Model 4 showed a significantly superior fit to the data than did Model 3, $\Delta\chi^2(2) = 210.56, p < .01$, CFI = .92, NFI = .92, SRMR = .06. Further, given the powerful impact of leadership on employee attitudes and performance (Yukl, 2008), we added the paths from leadership to employee attitudes and service performance in the Model 5 in Table 4. Leadership was a significant antecedent of employee attitudes ($\beta = .35, p < .01$) but not of service performance ($\beta = -.03, ns$). So we removed the link between leadership and service performance and obtained the final model of mediation test (i.e., Model 6 in Table 4). This model showed a significant improvement to all other alternative models, $\chi^2(8) = 120.18$, CFI = .97, NFI = .97, SRMR = .04. We kept Model 6 (presented in Figure 2) as the final mediation model. It showed full support for Hypothesis 7 regarding the effects of employee attitudes and service performance on customer satisfaction and subsequently financial performance, and it showed partial

Table 3
Meta-Analytic Correlations Among Service Climates and Its Antecedents and Consequences

Variable	1	2	3	4	5	6
1. Service climate	—					
2. HR practices (<i>r, r_c</i>)	.52, .56	—				
<i>k, N</i>	19, 2,280					
3. Leadership (<i>r, r_c</i>)	.40, .54	.46, .54	—			
<i>k, N</i>	12, 1,968	4, 627				
4. Employee attitudes (<i>r, r_c</i>)	.49, .65	.43, .64	.55, .67	—		
<i>k, N</i>	13, 1,615	6, 1,052	3, 427			
5. Service performance (<i>r, r_c</i>)	.38, .51	.32, .35	.25, .28	.26, .30	—	
<i>k, N</i>	34, 4,114	15, 1,946	9, 1,726	7, 1,223		
6. Customer satisfaction (<i>r, r_c</i>)	.23, .29	.13, .15	.17, .23	.24, .26	.48, .53	—
<i>k, N</i>	27, 5,729	7, 1,195	4, 444	5, 1,288	15, 1,989	
7. Financial outcomes (<i>r, r_c</i>)	.25, .32	.16, .21 ^a	.12, .13	.07, .08	.28, .32	.26, .27
<i>k, N</i>	15, 3,891	64, 12,499	4, 1,119	5, 2,887	9, 1,778	6, 1,807

Note. *k* = number of studies; *N* = combined sample size (i.e., total number of units); *r* = mean sample-size-weighted observed correlations; *r_c* = mean sample-size-weighted corrected correlation; HR = human resource.

^a From Combs, Liu, Hall, and Ketchen (2006).

Table 4
Comparison of Fit of Alternative Models

Model	χ^2 (df)	CFI	NFI	SRMR	$\Delta\chi^2$ (df)
1. Model 1 (full mediation model)	653.91** (12)	.84	.84	.10	
2. Model 2 (service climate → customer satisfaction path added)	649.30** (11)	.84	.84	.11	4.61* (1) ^a
3. Model 3 (service climate → financial outcomes path added)	563.56** (11)	.86	.86	.09	90.35** (1) ^a
4. Model 4 (HR practices → employee attitudes and HR practices → service performance paths added)	353.00** (9)	.92	.92	.06	210.56** (2) ^b
5. Model 5 (leadership → employee attitudes and leadership → service performance paths added)	118.74** (7)	.98	.98	.04	134.26** (2) ^b
6. Model 6 (final model)	120.18** (8)	.97	.97	.04	1.44 (1) ^b

Note. Harmonic $N = 1,325$. df = degrees of freedom; CFI = comparative fit index; NFI = normed fit index; SRMR = standardized root-mean-square residual; HR = human resource.

^a Model was compared with Model 1. ^b Model was compared with its previous model.

* $p < .05$. ** $p < .01$.

support for Hypothesis 8 regarding the mediating role of service climate in the influence of HR practices and leadership on employee attitudes and service performance. Table 5 presents the direct, indirect, and total effects of HR practices, leadership, and service climate on employee attitudes, service performance, customer satisfaction, and financial outcomes. Sobel's (1982) tests showed that all indirect effects were significant (z values ranged from 2.80 to 14.02).

Moderators of the Service Climate–Outcomes Relationships

With regard to the boundary conditions of the impact of service climate on outcomes, we examined the potential moderating roles of service types, levels of study, measures of service climate, and rating sources in the relationships between service climate and outcomes. To control for the influence of rating sources on the moderating effects of other moderators, we first separated service performance and customer satisfaction rated by employees, super-

visors, and customers and then examined all other moderators within each category divided by rating source. As shown in Table 2, service climate was more positively related to employee-rated service performance than to supervisor-rated service performance ($z = 10.21, p < .01$), and it was more positively related to supervisor-rated service performance than to customer-rated service performance ($z = 2.06, p < .05$). In addition, service climate was more positively associated with employee-rated or supervisor-rated customer satisfaction than with customers' own ratings of satisfaction.

As illustrated in Table 6, consistent with our expectation, the relationships between service climate and supervisor-rated service performance and customer-rated customer satisfaction were significantly stronger among contexts of personal service than among contexts of nonpersonal service ($z = -2.06, p < .05$ for supervisor-rated service performance as the outcome; $z = -2.33, p < .01$ for customer-rated customer satisfaction as the outcome). Interestingly, on the contrary, among nonper-

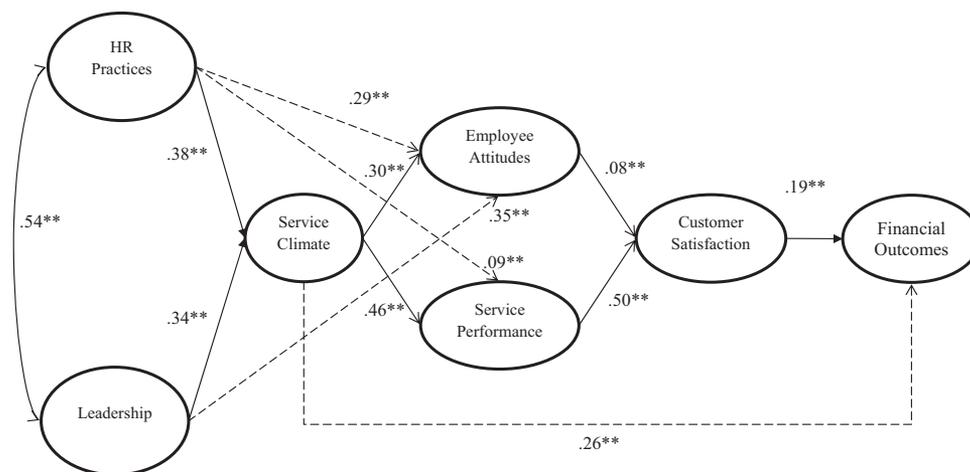


Figure 2. Results of path analyses of the antecedents and consequences of service climate. Coefficients presented were based on the results of Model 6 in Table 4. All coefficients were standardized estimates. Solid lines represent the hypothesized model; dashed lines represent the significant paths added to the hypothesized model. Harmonic $N = 1,325$. $\chi^2 = 120.18, df = 8$, comparative fit index = .97, normed fit index = .97, standardized root-mean-square residual = .04. HR = human resource. ** $p < .01$.

Table 5
Direct, Indirect, and Total Effects of Service Climate and Its Antecedents on Employee, Customer, and Financial Outcomes

Variable	Direct effects	Indirect effects	Total effects
Employee attitudes			
HR practices	.29**	.11**	.40**
Leadership	.35**	.10**	.45**
Service performance			
HR practices	.10**	.17**	.27**
Leadership		.15**	.15**
Customer satisfaction			
HR practices		.17**	.17**
Leadership		.11**	.11**
Service climate		.25**	.25**
Financial outcomes			
HR practices		.13**	.13**
Leadership		.11**	.11**
Service climate	.26**	.05**	.31**
Employee attitudes		.02*	.02*
Service performance		.10**	.10**

Note. All computations were based on the standardized coefficients in the final model and harmonic $N = 1,325$. HR = human resource.
* $p < .05$. ** $p < .01$.

sonal services rather than personal services, service climate exhibited a stronger association with employee self-rated service performance ($z = 7.75, p < .01$ for service performance as the outcome). There was no significant difference between personal and nonpersonal services in terms of the relationships between service climate and employee attitudes, customer-rated

service performance, employee- and supervisor-rated customer satisfaction, and financial performance.

Tables 7 and 8 provided the results for the moderating effects of levels of study and measures of service climate, respectively. As shown in Table 7, the levels of study did not moderate any relationship between service climate and its consequences. Next, we were interested in whether there was a significant difference in the service climate–outcomes relationships across different measures of service climate (i.e., Schneider, White, & Paul’s 1998 measure or others). As shown in Table 8, studies that used a non-Schneider measure of service climate found stronger relationships between service climate and employee-rated customer satisfaction ($z = 12.34, p < .01$).

To further examine whether the moderating effects of one variable might be confounded by the existence of other moderators, we calculated the correlations among service type, level of study, and measure of service climate in Table 9 and conducted the multivariate regression analyses to examine the moderating effects of all moderators simultaneously on the relationships between service climate and outcome variables. As presented in Table 10, service type ($\beta = .33, p < .01$) moderated the relationship between service climate and supervisor-rated service performance such that the corrected correlation was stronger for personal service. The moderating effects of the moderators on any other relationships between service climate and outcome variables were nonsignificant in the multivariate analyses. Considering the results of moderation tests from subgroup analyses and multivariate analyses, we obtained consistent findings of the moderating effect of service

Table 6
Moderating Effect of Service Types on Relationships Between Service Climate and Consequences

Variable	k	N	r	r_c	$SD r_c$	95% CI	Q	z
Employee attitudes								
Personal	7	635	.49	.67	.20	[0.49, 0.85]	15.16*	-0.37
Nonpersonal	6	980	.47	.62	.21	[0.30, 0.94]	62.95*	
Employee-rated service performance								
Personal	10	1,616	.44	.60	.26	[0.40, 0.79]	65.49**	7.75**
Nonpersonal	4	397	.57	.85	.14	[0.64, 1.05]	4.85	
Supervisor-rated service performance								
Personal	4	607	.50	.63	.12	[0.47, 0.78]	6.36	-2.06*
Nonpersonal	4	601	.27	.36	.01	[0.25, 0.47]	1.67**	
Customer-rated service performance								
Personal	8	1,459	.23	.32	.07	[0.24, 0.40]	7.72	1.71
Nonpersonal	9	868	.34	.48	.20	[0.28, 0.68]	25.55**	
Employee-rated customer satisfaction								
Personal	1	180	.38	.49		[0.30, 0.68]		0.37
Nonpersonal	2	381	.45	.61	.33	[-0.05, 1.27]	26.57**	
Supervisor-rated customer satisfaction								
Personal								
Nonpersonal	1	351	.30	.39		[0.25, 0.52]		
Customer-rated customer satisfaction								
Personal	13	2,130	.19	.24	.10	[0.17, 0.32]	16.10	-2.33**
Nonpersonal	9	2,651	.15	.20	.04	[0.14, 0.26]	7.45	
Financial performance								
Personal	9	1,737	.28	.36	.25	[0.17, 0.54]	65.06**	-1.49
Nonpersonal	5	2,118	.19	.25	.07	[0.14, 0.37]	8.30	

Note. k = number of studies; N = combined sample size (i.e., total number of units); r = mean sample-size-weighted observed correlations; r_c = mean sample-size-weighted corrected correlation; $SD r_c$ = standard deviation of r_c ; CI = confidence interval of r_c ; Q = homogeneity statistic of r_c .
* $p < .05$. ** $p < .01$.

Table 7
Moderating Effect of Levels of Study on Relationships Between Service Climate and Consequences

Variable	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	<i>SD r_c</i>	95% CI	<i>Q</i>	<i>z</i>
Employee attitudes								
Team/workgroup level	5	474	.48	.63	.17	[0.44, 0.83]	9.32	0.42
Branch/store level	8	1,141	.50	.67	.37	[0.40, 0.94]	68.92**	
Employee-rated service performance								
Team/workgroup level	3	352	.43	.55	.41	[-0.05, 1.15]	34.92**	0.60
Branch/store level	12	1,716	.53	.73	.27	[0.60, 0.85]	30.33**	
Supervisor-rated service performance								
Team/workgroup level	2	139	.18	.24	.14	[-0.12, 0.60]	2.20	1.69
Branch/store level	7	1,124	.40	.52	.17	[0.37, 0.68]	21.74**	
Customer-rated service performance								
Team/workgroup level	6	464	.26	.33	.25	[0.15, 0.51]	10.44	0.99
Branch/store level	11	1,548	.28	.40	.21	[0.28, 0.51]	24.26**	
Employee-rated customer satisfaction								
Team/workgroup level	1	180	.38	.49		[0.30, 0.68]		0.37
Branch/store level	2	381	.45	.61	.33	[-0.06, 1.27]	26.57**	
Supervisor-rated customer satisfaction								
Team/workgroup level								
Branch/store level	1	351	.30	.39		[0.25, 0.52]		
Customer-rated customer satisfaction								
Team/workgroup level	3	348	.20	.25	.00	[0.09, 0.41]	.90	-0.26
Branch/store level	20	4,469	.17	.23	.03	[0.18, 0.28]	26.15	
Financial performance								
Team/workgroup level								
Branch/store level	15	3,891	.25	.32	.18	[0.21, 0.44]	8.36**	

Note. *k* = number of studies; *N* = combined sample size (i.e., total number of units); *r* = mean sample-size-weighted observed correlations; *r_c* = mean sample-size-weighted corrected correlation; *SD r_c* = standard deviation of *r_c*; CI = confidence interval of *r_c*; *Q* = homogeneity statistic of *r_c*.
** *p* < .01.

type on the relationship between service climate and supervisor-rated service performance.

Combined, these results suggest that both general and service-oriented HR practices were significant antecedents of service climate and that the relationship between service-oriented HR and service climate was stronger than the relationship between general HR and service climate, fully supporting Hypotheses 1a, 1b, and 2. Similarly, we found that general positive leadership and service-oriented leadership exhibited a positive influence on service climate and that the influence of service-oriented leadership was stronger than the influence of general positive leadership, providing full support to Hypotheses 3a, 3b, and 4. With regard to the outcomes of service climate, service climate was found to positively relate both to positive employee attitudes, such as job satisfaction and organizational commitment, and to service performance, such as service task performance and OCBs. Thus, Hypotheses 5a, 5b, 6a, and 6b were all supported. Furthermore, results demonstrated that service climate partially rather than fully mediated the relationship between HR and leadership on employee attitudes and service performance, which were in turn positively related to customer satisfaction and financial outcomes in sequence. Hypothesis 7 was fully verified, and Hypothesis 8 was partially verified. In terms of the research questions regarding the moderators for the service climate-outcomes relationships, we found that service types, measures, and rater sources served as moderators of the relationships between service climate and the attitudes and performance outcomes by using subgroup analyses. When considering the moderating effects of all moderators simultaneously, we found only a significant moderating

effect of service types on the relationship between service climate and supervisor-rated service performance.

Discussion

This study proposed and meta-analytically tested a comprehensive model of the antecedents and influence processes of service climate. Although previous studies have established various bivariate linkages between the variables included in our model, these studies were examined in different contexts. Using a meta-analytic technique, we synthesized the findings of previous primary studies by describing and testing an integrated model of service climate. In addition, meta-analysis allows us to estimate the true population effect size, overcoming the limitation of a single data set collected from a particular sample (Hunter & Schmidt, 2004). The results of the current study illustrated the critical role of service climate in linking the antecedents and outcomes in the service profit chain. We found significant relationships between general/service-oriented HR practices and leadership and service climate and between service climate and employee job satisfaction, commitment, service performance, OCBs, customer satisfaction, and financial performance. Beyond the estimated relationships, our results provided compelling evidence supporting a theoretically derived model of service climate that explains the effect of variance in internal management on the performance of service organizations.

In addition, it is important to obtain a complete understanding of not only the bivariate relationships but also the boundary conditions that influence the relationships between service climate and outcomes (Mayer et al., 2009). Previous tests of

Table 8
Moderating Effect of Service Climate Measures on Relationships Between Service Climate and Consequences

Variable	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	<i>SD r_c</i>	95% CI	<i>Q</i>	<i>z</i>
Employee attitudes								
Schneider	6	771	.49	.64	.14	[0.49, 0.79]	10.48	0.20
Non-Schneider	7	715	.48	.67	.37	[0.33, 0.99]	67.74*	
Employee-rated service performance								
Schneider	7	528	.39	.53	.35	[0.22, 0.84]	37.91**	1.89
Non-Schneider	8	1,540	.59	.81	.13	[0.70, 0.92]	14.72*	
Supervisor-rated service performance								
Schneider	5	385	.31	.43	.14	[0.27, 0.59]	5.23	1.06
Non-Schneider	4	878	.40	.53	.20	[0.29, 0.78]	21.64**	
Customer-rated service performance								
Schneider	11	1,146	.28	.38	.21	[0.22, 0.54]	34.77**	-0.14
Non-Schneider	6	1,181	.27	.37	.00	[0.29, 0.45]	1.71	
Employee-rated customer satisfaction								
Schneider	2	340	.32	.38	.09	[0.16, 0.59]	2.81	12.34**
Non-Schneider	1	221	.65	.95		[0.75, 1.14]		
Supervisor-rated customer satisfaction								
Schneider								
Non-Schneider	1	351	.30	.39		[0.25, 0.52]		
Customer-rated customer satisfaction								
Schneider	11	1,776	.19	.24	.12	[0.15, 0.34]	17.74	-0.49
Non-Schneider	12	3,041	.16	.22	.03	[0.17, 0.27]	9.17	
Financial performance								
Schneider	5	371	.21	.24	.21	[0.00, 0.48]	14.37**	1.11
Non-Schneider	10	3,520	.26	.35	.29	[0.21, 0.49]	65.71**	

Note. Schneider = measure in Schneider, White, and Paul (1998); *k* = number of studies; *N* = combined sample size (i.e., total number of units); *r* = mean sample-size-weighted observed correlations; *r_c* = mean sample-size-weighted corrected correlation; *SD r_c* = standard deviation of *r_c*; CI = confidence interval of *r_c*; *Q* = homogeneity statistic of *r_c*.

* *p* < .05. ** *p* < .01.

various combinations of linkages between service climate and outcomes have revealed inconsistent results. Our findings illustrated that the service climate–service outcomes links varied on the basis of service types, rating sources, and measures used. In what follows we discuss the theoretical and practical implications of these findings.

Theoretical Implications

Our results offer a number of important theoretical contributions. First, our meta-analysis contributes to a better under-

standing of which foundation issues shape the service climate in organizations. Results showed that both general/service-oriented HR practices and leadership significantly influenced employees' perceptions of service climate. These findings resonate with prior research linking various HR practices (Chuang & Liao, 2010) and service-oriented leadership (Salvaggio et al., 2007) to service climate. Extending these previous studies, we further compared and contrasted the effects of service-oriented HR practices/leadership and general high-performance HR practices/leadership in one comprehensive model. Results re-

Table 9
Correlations Between Moderator Variables

Variables correlated with service climate	Correlations between moderators		
	Service type and study level	Service type and measure	Study level and measure
Employee attitudes	-0.30 (13)	-0.10 (13)	-0.42 (13)
Employee-rated service performance	-0.26 (14)	-0.09 (14)	-0.54* (15)
Supervisor-rated service performance	-0.38 (8)	0.00 (8)	-0.48 (9)
Customer-rated service performance	-0.04 (17)	-0.43 (17)	-0.48 (17)
Employee-rated customer satisfaction	-1.00** (3)	0.50 (3)	-0.50 (3)
Supervisor-rated customer satisfaction			
Customer-rated customer satisfaction	-0.17 (22)	0.31 (22)	-0.22 (23)
Financial performance		0.40 (14)	

Note. Correlation coefficients were the correlations between moderators when examining the relationships between service climate and outcome variables. The numbers in parentheses were numbers of studies that reported the information of moderators as well as the correlations between service climate and outcome variables. For service type, 0 = nonpersonal, 1 = personal; for study level, 0 = team/workgroup level, 1 = branch level; for measure of service climate, 0 = non-Schneider measure, 1 = Schneider measure.

* *p* < .05. ** *p* < .01.

Table 10
Regression Results of the Moderators

Moderator	Employee attitudes	Service performance			Customer satisfaction			Financial performance
		Employee	Supervisor	Customer	Employee	Supervisor	Customer	
Service type	.11	-.20	.33**	-.15		.03	.24	
Level of study	.10	.01	.24	.06		-.01	.00	
Measure	.01	-.32	-.06	-.10		-.00	-.24	
Number of studies	13	14	8	15	3	1	22	

Note. The corrected correlations between service climate and outcome variables were used as the dependent variables, and the three moderators were used as predictors in the regression analyses. For service type, 0 = nonpersonal, 1 = personal; for study level, 0 = team/workgroup level, 1 = branch/store level; for measure of service climate, 0 = non-Schneider measure, 1 = Schneider measure.

** $p < .01$.

vealed stronger effects of service-oriented HR practices and leadership on service climate, supporting the advocates for a finer tuned HR system that is strategically anchored to a specific goal (Lepak et al., 2006; Liao et al., 2009) and the notion that HR practices will achieve an “external fit” or “vertical fit” when closely aligned with the organization’s strategy (Becker & Gerhart, 1996; Huselid, 1995). Without a specific objective, general HR practices lack a clear direction for employees, and they may or may not be aligned with the objective of enhancing service quality (Liao et al., 2009). On the contrary, service-oriented HR practices are designed around a clear strategic focus and hence can more effectively direct employees’ attention and efforts toward achieving this strategic objective. This provides a generative framework for future research on the antecedents of other forms of climate such as safety climate, in that meaningful distinctions need to be made regarding strategically anchored HR practices (e.g., safety-oriented HR) and general high-performance HR practices and between strategically oriented leadership (e.g., safety-oriented leadership) and general effective leadership.

Furthermore, we found that service climate partially mediated the effect of HR practices on employee attitudes and performance, partially mediated the effect of leadership on employee attitudes, and fully mediated the effect of leadership on employee performance. Indeed, there has been empirical evidence showing a direct relationship between HR practices and employee outcomes (e.g., Batt, 2002; Liao et al., 2009). HR practices influence employees through forms of climate other than service climate, such as the organization’s concern for employees (Borucki & Burke, 1999; Chuang & Liao, 2000) and empowerment climate (Aryee, Walumbwa, Seidu, & Otaye, 2012). For example, strategic HR research has shown that high-performance work systems created a climate of concern for employees, through which they influenced employee attitudes such as job satisfaction and affective commitment (Takeuchi, Chen, & Lepak, 2009). Building on this finding, Chuang and Liao (2010) showed that high-performance work systems had a significant impact on both climates of concern for customers and concern for employees; a concern for customers was associated with employees’ service performance, and a concern for employees was directly related to helping behaviors. Concomitantly, Aryee et al. (2012) showed that high-performance work systems had a direct impact on empowerment climate, which trickled down to employee-level psychological empowerment and enhanced service performance. These suggest that HR systems

operate to influence both concerns for customer and support for employees; thus, service climate only partially mediated the HR system’s effect on employee outcomes.

On the contrary, leadership’s influence on employee service performance was fully mediated by service climate. We postulate that because most studies of the relationship between leadership and service climate have focused on service-oriented leaders who implement organizations’ policies of service quality and directly shape employees’ perceptions of what service behaviors are expected and supported, this kind of leadership pertains more closely to a concern for customers (Borucki & Burke, 1999) or service quality (Salvaggio et al., 2007) than a concern for employees; thus, its effect was fully captured by service climate. For example, Schneider et al. (2005) found that service climate fully mediated the effect of service leadership behavior on employee customer-focused OCBs. Even so, carefully designed future research on the relationship between general leadership and service climate is needed to provide a more precise conceptual account of the relationships, as other possibilities are yet to be considered for mediating the relationships between general leadership and service climate.

Second, our meta-analysis advances the understanding of the impact of service climate on a sequence of organizational outcomes. Many prior studies have examined piecemeal relationships between service climate and various outcomes. Synthesizing the service profit chain model (Heskett et al., 1997) and research on customer relationships (Storbacka et al., 1994), we tested a comprehensive model of the influence processes of service climate on various outcomes and found support for these theoretical linkages. In particular, we found that service climate had positive relationships with collective employee attitudes (e.g., job satisfaction and commitment) and service performance (e.g., task performance and OCB), which in turn were connected to customer satisfaction and subsequently financial performance. Given the limited number of primary studies that examined the focal relationships between service climate and employee and customer outcomes at the unit level, we encourage future research to accumulate additional empirical evidence to enable further meta-analyzing the complete influence processes specified in the service profit chain, the customer relationship economics model, and other service linkage research. Such influence processes include the specific effects on employee human capital (as examined in Ployhart, Weekley, & Ramsey, 2009), employee loyalty/turnover (Heskett et al., 1997), and customer perceived value relative to the costs/sacrifices in-

curred and its subsequent impact on customer relationship strength and longevity (Storbacka et al., 1994). The significant direct effects of service climate on financial outcomes, after employee and customer attitudinal outcomes have been accounted for, suggested that service climate may contribute to organizational bottom line perhaps through other mechanisms such as enhanced operational excellence. These mechanisms are also possibilities for future research.

Extending prior research that started to examine moderators of the service climate–service outcomes link, we meta-analytically compared studies that were conducted in different industries and found that the effects of service climate on supervisor-rated service performance and customer-rated satisfaction were stronger for personal service than for nonpersonal service, although the opposite effect was found for the influences on employee-reported satisfaction and service performance. Schneider and Bowen (1993) argued that “services like banking are experiences; it is the way, style, or manner with which a service is delivered that contributes to customers’ overall impression of service quality” (p. 39). This is particularly true when service is personal, in that the style and manner of service constitute the majority of the service experience. Previous research has found that the service climate–customer satisfaction link was stronger in service contexts that involved more “pure” service (more frequent interaction with the customers and intangibility; Dietz et al., 2004; Mayer et al., 2009). In pure service, the relational service aspect becomes more salient in customers’ overall experience, thus building a strong climate for service that provides expectation and support for service excellence proves to be more effective. The findings also concur with previous meta-analytical results showing a stronger relationship between employee satisfaction and customer satisfaction in the context of personal service than of nonpersonal service, because there are more opportunities for employees to display desirable behaviors and for customers to accurately capture such behaviors (Brown & Lam, 2008). The stronger effect of service climate on employee satisfaction and self-reported service performance in nonpersonal settings than in personal settings may be because in personal service contexts, employees are subject to more frequent and extensive personal interactions with customers. Thus, they need to exert greater effort to display positive emotions and handle customer complaints in order to meet the expectations set up by the service climate.

Although we had expected that a higher level of analysis could either intensify or diminish the relationship between service climate and outcomes, we did not find levels of study to moderate the effects of service climate on employee attitudes, service performance, and financial performance. This implies that service climate at both team/workgroup and branch levels are salutary for building employee- and customer-related outcomes. Perhaps the situational strength of service climate perceived at a lower level (Dietz et al., 2004) was counterbalanced by the smoothing out of random errors at the higher level (Ostroff et al., 2002). Nonetheless, we encourage further research to explicate the meaning and effectiveness of service climate at different levels of study.

The effects of service climate were found to vary in terms of the rating sources and measures used. Service climate had stronger relationships with service performance and customer satisfaction when they were reported by the self than by the supervisors. Service climate was also more strongly related to supervisor-

reported customer satisfaction than to customer-reported satisfaction. Item response theories suggest various constructs being reported by the same party tend to share the same “implicit theories” assumed by the individual (Podsakoff et al., 2003). Thus, the relationship between employee self-reported service climate and service performance/customer satisfaction may tend to be inflated. In addition, consistency motif and social desirability (Podsakoff et al., 2003) may play a role because employees or their supervisors may desire to demonstrate their responsiveness to the behavioral expectations set up by the service climate; thus, their evaluations of service performance and customer satisfaction may be more closely aligned with service climate than are customers’ evaluations. Customers who do not have the motivation to exhibit desirable attitudes or behaviors may display impartialness in their evaluations of various outcomes, thus deflating the relationship between service climates and outcomes (Podsakoff et al., 2003; Schmit, 1994).

Although it was the most widely used measure for service climate, Schneider, White, and Paul’s (1998) measure seemed to have more conservative relationships with employee attitudes and employee-rated service performance than did other measures. Aside from potential differences in actual predicting power, Podsakoff et al. (2003) have suggested several scale characteristics that may influence obtained results. For example, *item priming effects* occur if a non-Schneider measure of service climate reminds respondents of aspects of service performance that then become more salient when the respondent answers questions about service performance. *Scale length* may play a role in that other, shorter scales may be more prone to carryover effect from previous scales. In addition, construct validity may influence the strength of relationships. If some non-Schneider service climate measures are worded in a way that leans closer to the outcomes of service—such as assessing the perceptions of employee behaviors including “being able to make purchases quickly” (Borucki & Burke, 1999, p. 946), “employees are committed to developing and maintaining long-term relationships with customers” (Rogg, Schmidt, Shull, & Schmitt, 2001, p. 439), “If possible, I meet all requests made by my customers” (Susskind et al., 2003, p. 186), and “We often go out of our way to help customers” (Merlo, Bell, Mengüç, & Whitwell, 2006, p. 1220)—they may bear stronger relationships with those employee and customer outcomes than do measures that are more distant from the outcomes. Given that the effects of different measures were more divergent on employee-reported attitudes and customer satisfaction than on financial outcomes, we surmise that the stronger item priming effects and relatively shorter scales of those measures other than Schneider et al. (e.g., 4 items in Rogg et al., 2001; 5 items in Susskind et al., 2003) may have rendered their effects to be stronger than the Schneider et al. measure. Future research is needed to assess how these scale characteristics have contributed to the differential relationships between different measures of service climate and their outcomes.

Managerial Implications

This study also provides several practical implications. As service organizations, as well as manufacturing organizations that involve customer service, need to provide quality service to ensure future profitability, our framework provides some useful guidance on the actions that organizations can take to effectively manage the

service profit chain and customer relationship. First, the central role of service climate in linking the internal management with external customers and ultimately the organizational bottom line suggests that the creation and maintenance of a service climate are critical for promoting desirable behaviors on the part of employees and customers. Schneider and Bowen (1999) suggested that Xerox's effort to "delight" rather than merely satisfying customers brought in six times more repurchase from Xerox. Given that employees are the key to sensing the service climate, organizations may regularly assess employees' perceptions about various aspects of service climate to understand how effectively organizations are implementing the strategy of providing quality service and to what extent a service-quality culture has taken roots among frontline service employees. Schneider, Paul, and White (1998) noted that "there is no need to wait for evidence of the market impact of new goals to know whether the goals are effective; goals will not be effective if employees' energies and competencies are not focused on them" (p. 98). As service climate is a more proximal reflection of an organization's philosophy and practices than other outcomes, measuring service climate instead of employee and customer outcomes can provide a more immediate diagnosis that helps formulate an action plan should issues arise.

Second, although various HR practices and leadership may contribute to the creation of a service climate, implementing service-oriented HR practices and having service-oriented leadership more effectively foster a favorable service climate than does having general high-performance HR practices and leadership. These findings provide specific recommendations for managers who are contemplating actions that can most effectively develop a service climate. Rather than implementing general high-performance HR practices without specifying a particular objective, a company should focus its selection, training, and performance appraisal on encouraging employees to deliver quality service and conveying organization's expectations for service excellence (Liao et al., 2009). Implementing HR practices that specifically establish service delivery standards and provide support to employees in serving customers communicates to employees that service excellence is supported. Performance assessment and compensation should reflect a particular service focus such that service excellence is rewarded. In addition, managers may behave in ways that convey the importance of service quality, such as setting goals for customer satisfaction, ensuring the employees have the necessary support to deliver quality service, and paying attention to customer needs. Although general effective leadership has been called upon in previous research (Heskett et al., 1997), the finding that service-oriented leadership contributed to service climate more strongly than general leadership suggests that training and performance assessment programs can be developed to specifically improve leaders' service orientation. Having a precise understanding of the relative strengths of service-oriented HR and leadership over general HR and leadership will furnish useful guidance for managers balancing such trade-offs in allocating their resources.

Third, we also found the contingencies under which the effects of service climate on outcomes differ, which shed light on the conditions under which investment in building a service climate would be most fruitful. Results showed that service climate had a stronger effect on supervisor-rated employee service performance and customer-reported satisfaction when service was personal than

when it was nonpersonal. Such findings provide guidance for managers to formulate managerial practices and leadership in a manner that is commensurate with the strategic importance of service climate in the service setting. Although service climate is important for organizational service outcomes in general, managers in personal service industries such as hospitality, health care, and entertainment services should be particularly mindful of investing resources in building a strong service climate.

Limitations and Future Research

Some researchers have questioned whether it is appropriate to use correlation matrixes derived from meta-analysis to run SEM (Cheung & Chan, 2005). These researchers suggested that such analyses might bias model fit indexes and path estimates. In addition, model fit indexes and path estimates are also influenced by the quality of the primary studies and the procedures and corrections used in each meta-analysis. For example, we used ICC (2) to correct the correlations for unreliability when the variables were measured at the individual level and aggregated to the collective level. The relatively low ICC (2) values (e.g., the average ICC (2) in our sample for service climate was .67) may inflate the corrected population estimates and the path coefficient estimates. Also, some studies included in this meta-analysis collected service climate and other variables from the same source, which may also enlarge the correlations between service climates and other variables. However, we based our model testing on a theory-driven approach to examine a comprehensive and integrated model of service climate and its antecedents and influence processes. The inflated correlations may change the magnitudes of the path coefficients in the mediating test but not the main findings of the mediating relationships. Nonetheless, we recommend that future research extend the service climate model in the following ways.

First, although our meta-analysis results show that service climate is a critical link between organizations' internal management and performance, prior research suggests that the effect of service climate may depend on its strength, or the degree of consistency among employees' perceptions of service climate (Schneider et al., 2002). We draw on theories of climate strength (Bowen & Ostroff, 2004) to illustrate the relative strengths of service-oriented HR and leadership over general HR and leadership. Future research may build on the current findings to examine the role of climate strength in influencing the proposed relationships.

Second, more research is needed to untangle how and under what conditions the relationships in our comprehensive model will hold. Even though the indirect relationships among antecedents, service climate, and outcomes have been demonstrated in our study, more studies are needed to explore the direct relationships between antecedents and employee attitudes and service performance beyond the mediating process of service climate, as well as the direct relationship between service climate and customer and financial outcomes. We would consider our final model of the mediating test as a starting point for future research of this topic. Researchers are encouraged to (a) explore the mediating role of service climate along with other mediators (e.g., other types of climates, such as concern for employee examined in Chuang & Liao, 2010) in the relationship between HR practices as well as leadership and outcome variables and (b) examine other mediators beyond employee attitudes and service performance in the rela-

tionship between service climate and financial outcomes (e.g., human capital, as examined in Ployhart et al., 2009). In addition, the present meta-analysis has included service-oriented HR and leadership, service types, levels of analysis, measures used, and rating sources as potential moderators. Future meta-analyses may consider additional boundary conditions for these relationships. For example, does the type of employee (frontline vs. back-office) influence how service climate shapes employees' attitudes and performance and how their attitudes and performance matter to customers? Do different types of service interactions (i.e., service encounters, pseudo-relationships, service relationship; Gutek, Bhappu, Liao-Troth, & Cherry, 1999) influence the relationships established in the service climate model? Given the limited number of empirical studies, we are not able to examine all possible moderators in the current meta-analysis. This suggests the need for researchers to continue to conduct high-quality individual empirical studies in different service contexts using different methods in order to accumulate a sufficient number of studies for future meta-analytical review.

Third, due to the nature of the primary studies, the findings in this meta-analysis are subject to further scrutiny to determine causal directions. With some rare exceptions (Schneider et al., 2009; Schneider, White, & Paul, 1998), most of the study variables were collected in a cross-sectional design. Therefore, the relationships among HR practices/service-oriented leadership, service climate, employee outcomes, customer outcomes, and financial outcomes cannot be interpreted causally or even temporally. We were not able to rule out the possibility of reverse causality. Prior research has indeed proposed the reciprocal effects of customer outcomes on service climate (Salanova et al., 2005; Schneider, White, & Paul, 1998). The reason is that customers may also serve as a diagnostic tool or feedback provider for service companies. For example, customer loyalty is a form of positive feedback to service companies, which reinforces good organizational practices and fosters an even better service climate (Salanova et al., 2005; Schneider, Paul, & White, 1998). In addition, employee outcomes may have a reciprocal effect on service climate. Employees may provide feedback to the organizational management about the customer needs, which serves to help the formation of service climate at the collective level. Employees are also considered as a source for organizations to sense how well they are meeting the customer demands (Schneider, Paul, & White, 1998). Therefore, employees may also influence an organization's practices. Future research should build upon the current findings by testing the proposed relationships and the potential reciprocal effects over time.

Last, although we examine the model of service climate at the collective level of analysis (e.g., at the team/workgroup and the branch/store levels), we encourage more meta-analyses to examine the antecedents and outcomes of psychological service climate at the individual level. For example, employees' personal dispositions and psychological states, such as their engagement, vigor, dedication, and absorption toward the work, have been shown to closely predict their perceptions of service climate (Salanova et al., 2005). In addition, the impact of service climate on individual employee attitudes and service behavior and its subsequent influence on individual customer outcomes also warrant future research attention.

In conclusion, the current study developed and meta-analytically examined a comprehensive model of the antecedents, outcomes, and moderators of service climate in the framework of service profit chain. Our results based on 58 independent samples provide support for service climate as a critical linkage between internal and external service parameters. In particular, we found that service climate mediated the effect of HR practices and leadership on employee attitudes and performance, which were then translated into customer satisfaction and subsequent financial performance. The model provides a streamlined picture of how HR practices, leadership, service climate, employee attitude and performance, customer satisfaction, and financial outcomes are interlocked. In addition, service-oriented HR practices and leadership appeared to have stronger relationships with service climate than did general high-performance HR practices and leadership, which sheds light on the most effective means to create a favorable service climate. Finally, we found that service climate had a stronger effect on outcomes when service was personal than nonpersonal, when outcomes were reported by employees than by supervisors and customers, and when non-Schneider measures were used. We hope that this meta-analytical review serves to encourage continued accumulation of future empirical efforts to better understanding of the boundary conditions and processes of service management.

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Appendix A
Coding Information for Samples Included in the Meta-Analysis

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding							
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry	
Antioico et al. (2008)	137	—	Service reward (0.93)	.34	SE	SE	SU		NSC	B	NP	
			Service training (0.94)	.24								
			Cross-functional communication (0.91)	.15								
			Visionary leadership of services (0.92)	.27								
			Service volume (0.88)	.21								
Auh et al. (2011)	66	.66	Product sales (0.94)	.23					CU	SC	B	P
			Customer satisfaction (0.90)	.09								
Borucki & Burke (1999)	463	—	Importance of service to store management (—)	.38		SE	EE, CU		NSC	B	P	
			Employee perceived service performance (0.94)	.64								
			Customer perceived service performance (0.77)	.28								
			Operating profit or loss/total sales (1.00)	.12								
Borucki & Burke (1999)	463	—	Importance of service to store management (—)	.44		SE	EE, CU		NSC	B	P	
			Employee perceived service performance (0.94)	.65								
			Customer perceived service performance (0.77)	.24								
			Operating profit or loss/total sales (1.00)	.18								
Burke et al. (1996)	564	—	Customer shopping frequency (—)	.17				CU	NSC	B	P	
Chen et al. (2009)	221	—	Customer loyalty (0.70)	.65				EE	NSC	B	NP	
Chuang & Liao (2010)	133	.80	High-performance work systems (0.92)	.39	SE		SU		SC	B	P	
			Service performance (0.92)	.46								
			Helping behavior (0.84)	.45								
			Market performance (0.85)	.27								

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding						
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry
de Jong et al. (2004)	61	—	Self-management team (0.89)	.56	GE		CU		SC	T	NP
de Jong et al. (2005)	26	—	Service quality (0.92)	.40							
			Self-management team (0.90)	.41	GE		CU		SC	T	NP
			Work team (0.83)	.16							
Dietz (2000)	160	.82	Service quality (0.93)	.54							
			Concern for and support of employees (0.78)	.65	GE				SC	B	NP
			Participation and cooperation (0.69)	.74							
			Appraisal and recognition (0.77)	.63							
			Work facilitation (0.82)	.61							
			Skill development (0.81)	.42							
Dietz (2000)	160	.86	Concern for and support of employees (0.78)	.80	GE		CU	CU	SC	B	NP
			Participation and cooperation (0.69)	.77							
			Appraisal and recognition (0.79)	.75							
			Work facilitation (0.81)	.67							
			Skill development (0.82)	.45							
			Service performance (0.82)	.02							
			Customer satisfaction (0.90)	.05							
Dietz et al. (2004)	160	.87	Customer satisfaction (0.98)	.25				EE	SC	B	NP
Ehrhart et al. (2011)	36	.80	Service quality (0.94)	.41				EE	SC	B	NP
Gebauer et al. (2010)	302	—	Sales performance (0.84)	.29					NSC	B	NP
Gracia et al. (2010)	117	—	Organizational facilitators (0.91)	.27	GE		EE, CU		SC	T	P
			Employee perceived service reliability (0.76)	-.19							
			Employee perceived service responsiveness (0.62)	.34							
			Employee perceived service assurance (0.87)	-.16							
			Employee perceived service empathy (0.78)	-.13							
			Customer perceived service reliability (0.81)	.17							
			Customer perceived service responsiveness (0.89)	.14							
			Customer perceived service assurance (0.65)	.09							

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding							
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry	
			Customer perceived service empathy (0.80)	.10								
Grewal & Slotegraaf (2007)	110	.92	Firm performance (0.96)	.45					SC	B	P	
Grizzle et al. (2009)	38	.61	Customer-oriented behavior (0.93)	.10			EE		NSC	B	P	
Hui et al. (2007)	55	.51	Effective leadership behavior (0.96)	.48		GE	SU		SC	T	—	
Hur et al. (2011)	55	.80	Service quality (0.90)	.05								
			Transformational leadership (0.76)	.38		GE	EE		SC	T	—	
			Team effectiveness (0.83)	.73								
Jia (2008)	39	—	Service quality (—)	.53			CU		SC	T	NP	
Johnson (1996)	57	.54	Customer satisfaction (—)	.26			CU	CU	NSC	B	NP	
			Service quality (—)	.34								
Lam & Mayer (2011)	41	.40	Service-oriented behavior (0.38)	.31			EE, SU		SC	B	NP	
			Service performance (—)	.26								
Lenka et al. (2010)	315	—	Recruitment and selection (0.88)	.12	GE	GE	CU	CU	SC	B	NP	
			Training and development (0.85)	.16								
			Rewards and compensation (0.66)	.13								
			Performance appraisal (0.77)	.23								
			Idealized influence (0.77)	.37								
			Inspirational motivation (0.64)	.23								
			Intellectual stimulation (0.67)	.24								
			Individualized consideration (0.68)	.36								
			Affective commitment (0.76)	.46								
			Extrinsic job satisfaction (0.64)	.39								
			Intrinsic job satisfaction (0.67)	.42								
			Human aspects of service quality (0.82)	.36								
			Technical aspects of service quality (0.79)	.17								
			Tangible aspects of service quality (0.71)	.17								
			Customer satisfaction (0.74)	.20								

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding						
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry
Liao & Chuang (2004)	25	.56	Employee involvement (0.85)	.24	SE		EE, CU	CU	SC	B	P
			Service training (0.91)	.29							
			Performance incentives (—)	.11							
			Service performance (0.88)	.47							
			Customer evaluation of service quality (0.97)	.50							
			Customer satisfaction (0.96)	.34							
			Customer loyalty (0.73)	.44							
Martínez-Ture et al. (2011)	105	.68	Customer satisfaction (0.96)	.13				CU	NSC	T	P
Mayer et al. (2009)	129	.70	Customer satisfaction (0.94)	.04				CU	SC	T	P
McKay et al. (2011)	769	.74	Customer satisfaction (0.75)	.19				CU	SC	B	P
Merlo et al. (2006)	112	—	Service creativity (0.79)	.57			SU		NSC	B	P
			Retail performance (0.67)	.60							
Nowicki (2001)	41	—	Communication (0.86)	.70	SE				SC	B	P
			Suggestions for improvement (0.88)	.72							
			Performance evaluation (0.91)	.58							
			Pay and benefit (0.88)	.59							
			Job satisfaction (—)	.81							
Ooncharoen & Ussahawanitchakit (2008)	278	—	Service quality (0.91)	.57			SU		NSC	B	P
			Financial performance (0.93)	.53							
Ostroff et al. (2002)	71	—	Supervisor support (0.88)	.26		GE			NSC	B	P
			Job satisfaction (0.89)	.29							
Potocnik et al. (2011)	107	.61	Functional service quality (0.61)	.08			CU		SC	T	P
			Relational service quality (0.61)	.13							
Raub & Liao (2012)	74	.89	Service performance (0.82)	.26			EE	CU	SC	B	P
			Customer satisfaction (0.71)	.37							
Ray et al. (2005)	72	—	Service quality (0.84)	.40			SU		SC	B	NP
Rogg et al. (2001)	351	.80	Training (0.84)	.26	GE		SU	SU	NSC	B	NP
			Performance review (0.91)	.42							
			Hiring (0.57)	.21							
			Testing (0.29)	.06							

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding						
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry
Salanova et al. (2005)	114	.83	Job description (0.85)	.19							
			Commitment (0.84)	.68							
			Customer satisfaction (—)	.27							
			Service quality (—)	.30							
			Training (0.83)	.30	GE		CU	CU	SC	T	P
			Autonomy (0.83)	.21							
			Technology (0.83)	.25							
			Vigor (0.62)	.20							
			Dedication (0.95)	.52							
			Absorption (0.83)	.22							
Salvaggio et al. (2007)	145	.70	Service performance (0.83)	.15							
			Customer loyalty (0.83)	.27							
			Leader service quality orientation (0.70)	.49		SE			SC	T	P
			Service quality (0.72)	.65			EE	CU	NSC	B	NP
			Customer satisfaction (0.95)	.28							
			Service quality (0.72)	.73			EE	CU	NSC	B	NP
			Customer satisfaction (0.95)	.29							
			Employee morale (—)	.47			CU		SC	B	NP
			Service quality (—)	.46							
			Hiring procedures (—)	.64		GE			SC	T	NP
Schneider et al. (1992)	70		Staffing levels (—)	.17							
	74		Training (—)	.40							
	41		Career development (—)	.11							
	25		Job security (—)	.19							
	23		Performance appraisal process (—)	.34							
	68		Performance feedback (—)	.46							
	70		Internal equity of compensation (—)	.43							
	30		External equity of compensation (—)	.16							
	37		Overall job attitudes (—)	.34							
	Schneider, White, and Paul (1998)	134	.47	Work facilitation (0.47)	.70	SE	SE	CU		SC	B
Managerial practices (0.47)				.66							
Schneider et al. (2005)	56	—	Service quality (0.79)	.26							
			Service leadership (0.95)	.40		SE		CU	SC	B	P
			OCBs (0.94)	.29							
			Customer satisfaction (0.96)	.08							
			Sales performance (1.00)	-.21							

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding						
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry
Schneider et al. (2009)	36	.72	Customer satisfaction (—)	.48				CU	SC	B	—
			Sales performance (1.00)	.30							
Schulte et al. (2009)	120	.59	Employee affect (0.61)	.86				CU	NSC	B	NP
			Intention to stay (0.31)	.54							
			Customer satisfaction (0.93)	.13							
Schulte et al. (2009)	86	.75	Employee affect (0.76)	.73			EE		NSC	B	P
			Service quality (0.84)	.63							
			Financial performance (1.00)	.02							
Scotti et al. (2009)	113	—	High-performance work systems (0.91)	.74	SE		EE, CU	CU	NSC	B	P
			Employee perceived service quality (0.76)	.68							
			Customer perceived service quality (0.83)	.34							
			Customer satisfaction (—)	.25							
Scotti et al. (2009)	57	—	High-performance work systems (0.92)	.64	SE		EE, CU	CU	NSC	B	P
			Employee perceived service quality (0.81)	.42							
			Customer perceived service quality (0.80)	.27							
			Customer satisfaction (—)	.10							
Shainesh & Sharma (2003)	48	—	Managerial practices (—)	.59		SE	CU		SC	B	NP
			Service quality (—)	.45							
Sowinski et al. (2008)	129	.45	Customer satisfaction (1.00)	.13				CU	NSC	B	NP
			Store profitability (1.00)	.16							
			Voluntary turnover rate (1.00)	-.06							
Steinke (2008)	180	.81	Service training (0.79)	.60	SE		EE	EE	SC	T	P
			Managerial practices (0.90)	.73							
			Job satisfaction (0.86)	.61							
			Service quality (0.83)	.60							
			Customer satisfaction (0.90)	.38							
Susskind et al. (2003)	26	.83	Supervisor support (0.56)	.24		SE		CU	NSC	B	P
			Customer satisfaction (0.96)	.62							

(Appendices continue)

Study	Sample size	Service climate ^a	Other variables ^b	Effect size	Moderator coding						
					HR	Leadership	Service performance	Customer satisfaction	Measure	Level	Industry
Towler et al. (2011)	1,500	.54	Customer satisfaction (0.81)	.14				CU	NSC	B	NP
			Store profitability (1.00)	.12							
Veld et al. (2010)	59	.73	HR bundle (0.70)	.32	GE				NSC	T	P
			Commitment (0.69)	.59							
M.-L. Wang (2009)	36	.79	Annual sales (1.00)	.20					SC	B	P
H. Wang (2011)	32	.48	Customer satisfaction (0.54)	.44				CU	SC	B	P
Way et al. (2010)	84	—	Job satisfaction (0.87)	.49			SU		SC	T	P
			Group task performance (0.89)	.31							
			OCBs-individual (.89)	.22							
			OCBs-organization (0.89)	.21							
Yavas et al. (2010)	50	—	Service-related practices (0.83)	.80	SE			CU	NSC	B	NP
			Financial performance (1.00)	.39							
			Customer satisfaction (0.98)	.07							

Note. Complete references can be found in the reference section. Dashes = not applicable. HR = human resource; SE = service-oriented HR practices or leadership; SU = supervisor-rated; NSC = non-Schneider measure; NP = non-personal service; CU = customer-rated; SC = Schneider measure; P = personal service; EE = employee-rated; GE = general HR practices or leadership; T = team/workgroup level; B = branch level; OCBs = organizational citizenship behaviors.

^a Values in this column are reliabilities for service climate. ^b Values in the parentheses are reliabilities for variables.

Appendix B

References of the Studies Considered but Excluded

1. Individual-Level Studies (34)

Ashill, N. J., Rod, M., & Carruthers, J. (2008). The effect of management commitment to service quality on frontline employees' job attitudes, turnover intentions and service recovery performance in a new public management context. *Journal of Strategic Marketing, 16*, 437–462.

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(Appendices continue)

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